

REMARKS

Claims 1-27 were pending, and Claims 10-20 were withdrawn in accordance with a restriction requirement. In the present Office Action, Claims 1-6, 9 and 21-25 were rejected and Claims 7, 8, 26 and 27 were objected to. Claims 1, 5, 7, 8 and 21 have been amended; Claim 2 has been cancelled; and new Claims 28-30 presented. No new matter has been added. In view of the amendments and the remarks presented below, the Applicants respectfully submit that the objections and rejections have been overcome and that the claims are in condition for allowance.

Examiner's Comments

The Applicants express appreciation to the Examiner for the comments and suggestions made with respect to the wording of the claims, and have taken them into consideration in the course of amending the claims. The Applicants respectfully submit that any deficiency that was perceived in the claims has now been obviated.

Objections to Claims

Claims 7, 8, 26 and 27 were objected to as being dependent upon a rejected base claim, but the Examiner indicated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicants appreciate the prompt allowance of the subject matter of these claims, but respectfully decline to amend them as, in view of the amendments made to other claims and the remarks presented below, these claims are dependent on now allowable base claims and are allowable, without more.

Claim Rejections

35 U.S.C. § 112, first paragraph

Claims 5, 6, 24 and 25 were rejected under 35 U.S.C. § 112, first paragraph, as not having been enabled. The Applicants respectfully traverse these rejections, although Claim 5 has been amended to clarify the wording.

Amended Claim 5 recites, *inter alia*, a ferromagnetic layer disposed between the second free magnetic layer and each of the second antiferromagnetic layers.

By way of example and not by way of limitation, the Applicants respectfully submit that Claim 5 reads on Fig. 1, where a ferromagnetic layer 40 is disposed over the second free magnetic layer 38, and beneath each of the second antiferromagnetic layers 41. (see also, the specification, page 23, lines 1-11).

Claim 6 recites, *inter alia*, an upper surface of the second free magnetic layer is exposed to a space between the second antiferromagnetic layers in the track width direction, and a nonmagnetic layer is disposed on the exposed upper surface.

By way of example and not by way of limitation, the Applicants respectfully submit that Claim 6 reads on Fig. 1, where an upper surface (the surface opposite to 34a) of the second free magnetic layer 38, is exposed to a space between the second antiferromagnetic layers 41 in the track width direction (the distance D in the track width direction), and the nonmagnetic layer 39 is disposed on the exposed upper surface. (see also, the specification, page 23, lines 1-11).

Consequently, the Applicants respectfully submit that language of the claims is supported both by the figures and the specification in an unambiguous manner, and that the rejection thereof under 35 U.S.C. § 112, first paragraph, should be withdrawn. Claims 24 and 25 are claims dependent on Claims 5 and 6 and are allowable, without more.

35 U.S.C. § 102

Claims 1, 3, 4, 9, 22 and 23 were rejected under 35 U.S.C. § 102 (a) and (e) as being anticipated by Redon et al. (US 6,469,879; “Redon”) and under § 102 (b) as anticipated by Redon et al. (JP 2001-006127 A; “Redon (JP)”), the Examiner noting that US’879 is the US equivalent of JP’127. Claims 1-4, 9 and 21-23 were rejected under 35 U.S.C. § 102 (a) and (e) as being anticipated by Umetsu (US 2003/0030948; “Umetsu”) and under § 102 (b) as anticipated by Umetsu (JP 2003-0060264; “Umetsu (JP)”), the

Examiner noting that US'948 is the US equivalent of JP'264. Claims 1, 3, 9, and 22 were rejected as being anticipated by Beach (US 2003/01311215; "Beach").

The Applicants have amended Claim 1 to incorporate the subject matter of now cancelled Claim 2, and thus the application of Redon or Beach to Claim 1 is overcome, as the Examiner does not suggest that Redon or Beach teach the subject matter of Claim 2.

In rejecting now cancelled claim 2, the Examiner characterized Umetsu as teaching "optional protective layers (i.e., applicants' "second insulating layers")". However, Umetsu teaches that the protective layer 36, disposed on the second antiferromagnetic layer is a conductive layer composed of Ta or the like (Umetsu, para 0161, line 2). The conductive layer as taught by Umetsu is distinctly different from the insulating layer recited in the aspect of Claim 2 now incorporated into Claim 1. Therefore, Umetsu does not teach all of the elements and limitations of amended Claim 1, and it is allowable.

Claims 3-9 and 21-27, which are dependent on allowable Claim 1, are allowable, without more.

35 U.S.C. § 103(a)

Claims 4 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Beach in view of Hoyhiya et al. (US 2003/0206384; "Hoyhiya").

Claims 4 and 23 are claims dependent on an allowable base claim and are allowable, without more.

Claims 1, 3-6, 9 and 22-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoyhiya in view of Beach.

As noted above, Claim 1 has been amended to incorporate the subject matter of now cancelled Claim 2. As the Examiner did not apply the Hoyhiya and Beach references to Claim 2, it follows that the references cited against Claim 1 do not teach or suggest all of the elements of amended Claim 1, and the claim is therefore allowable.

Claims 3-9 and 21-27, being claims dependent on an allowable base claim are allowable, without more.

New Claims

New Claims 28-30 have been presented to further describe the subject matter to which the Applicants are entitled. Claims 28 and 29 incorporate the subject matter of allowable Claim 1 and are thus allowable, and Claim 30 is dependent on Claim 29.

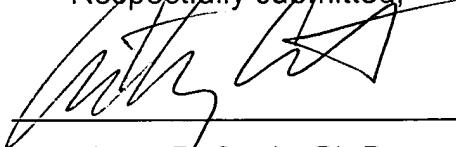
Conclusion

Claims 10-20 have been withdrawn; Claim 2 has been cancelled; Claims 1, 5, 7, 8 and 21 have been amended; and, new Claims 28-30 have been presented. Claims 1, 3-9 and 21-30 are pending after entry of this amendment.

For at least the reasons presented above, the Applicants respectfully submit that the pending claims are in condition for allowance.

The Examiner is respectfully requested to contact the undersigned in the event that a telephone interview would expedite consideration of the application.

Respectfully submitted,



Anthony P. Curtis, Ph.D.
Registration No. 46,193
Agent for Applicants

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200